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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/054,010	01/21/2002	Barry Gelernt	06161USA	5486
23543	7590	04/16/2004	EXAMINER	
AIR PRODUCTS AND CHEMICALS, INC. PATENT DEPARTMENT 7201 HAMILTON BOULEVARD ALLENTOWN, PA 181951501			FASTOVSKY, LEONID M	
			ART UNIT	PAPER NUMBER
			3742	

DATE MAILED: 04/16/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/054,010

Applicant(s)

GELERNT ET AL.

Examiner

Leonid M Fastovsky

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. Claim 1 is objected to because of the following informalities: the word 'vaporizer' in line 4 is misspelled. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 6-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Claim 6 recites the limitation "vaporization chamber" in line 1. There is insufficient antecedent basis for this limitation in the claim.
5. Claims 7, 9 and 10 recite the limitation "source of heat" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-2, 14, 16 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Chayka (5,952,046).

Chayka teaches a vapor flow controller 10 (Fig. 2-3) comprising a source container 12,112 containing a liquid phase source material 14, 114, a pump 28, a vaporizer module 36, 136, the pump having a flow control valve 12, 20, a carrier gas container from line 38, 138 and a mass flow controller 150 coupled to a reactor 142.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chayka in view of McMenamin (4,436,674).

Chayka teaches substantially the claimed invention but is silent about a flow rate controlled by mass flow meter. McMenamin discloses a mass flow controller 40 with the flow rate from 0 to 500 cubic centimeters per minute. It would have been obvious to one having ordinary skill in the art to modify Chayka's invention to include the flow rate from 0 to 500 cubic centimeters per minute as a standard rate as taught by McMenamin.

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10. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chayka in view of Schmitt (6,098,964).

Chayka teaches substantially the claimed invention but does not teach a particulate filter. Schmitt discloses a particular filter 22. It would have been obvious to one having ordinary skill in the art to include a particular filter in Chayka's invention to filter in order to filter liquid as taught by Schmitt.

11. Claims 5-10 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chayka in view of Stauffer (5,399,200) and further in view of Bran (5,556,479).

Chayka teaches substantially the claimed invention, but is silent regarding a vaporizing chamber, electronic control module, source of heat, temperature range and a thermal sensor. Stauffer discloses a module 11 that is attached to a processing unit 10 comprising a processing chamber and an electronic control module 17 (col. 2, lines 50-56). Also, Stauffer discloses a thermocouple 71, heating rods 42 (col. 5, lines 9-25) and a temperature range from 35 to 160 degree C (Col.4, lines 20-25). Bran discloses quartz lamps 54 with mirrors (col.5, lines 61-64). It would have been obvious to one having ordinary skill in the art to modify Chayka's invention to include a processing chamber, a heating rods, a thermal sensor, temperature range and an electronic control module to vaporize liquid as taught by Stauffer (col. 2, lines 50-56, col. 5, lines 9-25, col. 4, lines 20-25) and quartz lamps with mirrors to produce radiant energy during the drying process as taught by Bran (col. 5, lines 48-59).

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12. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chayka in view of Stauffer and further in view of Jacob et al (4,539,221).

Chayka in view of Stauffer teaches substantially the claimed invention including an electronic control module 17, but is silent regarding a temperature range and sources of heating. Jacob teaches temperatures in a range from 900-1150 degree C and induction and resistive sources of heat (col. 2, lines 50-54). It would have been obvious to one having ordinary skill in the art to modify the invention of Chayka and Stauffer to include induction and resistive heating sources and the temperature in order to maintain proper vapor phase as taught by Jacob (col. 2, lines 60-67).

13. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chayka in view of Stauffer and further in view of Woodgate (4,321,031).

Chayka in view of Stauffer discloses substantially the claimed invention, but is silent regarding a latent heat of vaporization. Woodgate discloses liquid with a latent heat of vaporization (Abstract). It would have been obvious to one having ordinary skill in the art to modify the invention of Chayka and Stauffer to include an apparatus where the vapors condensate and transfer the latent heat as taught by Woodgate (Abstract, lines 5-8).

14. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chayka in view of Hinkle (5,966,499).

Chayka teaches substantially the claimed invention, but does not teach a flow range of a liquid chemical. Hinkle discloses a flow range of 0.8 grams per minute (col. 10, lines 11-15). It would have been obvious to one having ordinary skill in the art modify

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Chayka's invention to include a flow range as taught by Hinkle in order to maintain a process of vaporization.


Response to Arguments

15. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid M Fastovsky whose telephone number is 703-306-5482. The examiner can normally be reached on M-Th. 8.00 am -6.00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Denise Pothier can be reached on 703-308-0265. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Leonid M Fastovsky
Examiner
Art Unit 3742

Imf